

### **REMARKS**

Claims 1 to 20 are pending. Claim 17 is currently canceled, without prejudice or disclaimer. Claim 20 has been withdrawn from consideration. Claim 18 is currently amended. Claim 21 has been added. Reconsideration of the application is requested.

### **§ 103 Rejection of Claims 1-10 and 12-19**

Claims 1-10 and 12-19 were rejected under 35 USC § 103(a) as being unpatentable over Langer et al. (US Patent No. 6,458,418 B2). In support of this rejection, the Office Action states:

It would have been obvious ... to come up with the a multilayer mat having a non-intumescent layer positioned between two intumescent layers, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

According to MPEP §706.02(j), to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP § 2143- § 2143.03 for decisions pertinent to each of these criteria.

The initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). See MPEP § 2144 - § 2144.09 for examples of reasoning supporting obviousness rejections.

It appears that the Office Action takes the position that Langer et al. suggests the present claimed mat construction, since the Office Action acknowledges that, “Langer et al. does not specify that the non-intumescent layer is positioned between two intumescent layers ...”. In support of this position, the Office Action points to specific disclosures in Langer et al.: “The layer adjacent the metal housing contains an intumescent material” (Col. 4, lines 5-6) and that the Langer et al. intumescent sheet can have “three or more layers wherein at least one layer comprises an intumescent material and wherein adjacent layers are desirably comprised of different compositions.” (Col. 5, lines 60-64). From these passages, the Office Action draws the following conclusion:

Thus, two layers of intumescent materials can be used with a non-intumescent layer. Since the layer adjacent to the metal housing contains an intumescent material, the non-intumescent layer will be positioned in between the two intumescent layers to form a multilayer mat of intumescent/ non-intumescent/ intumescent.”

It is submitted that the passages cited from Langer et al. do not suggest sandwiching a non-intumescent layer between two intumescent layers. First, while the Langer et al. disclosure does not preclude the use of two layers of intumescent with a non-intumescent layer, Langer et al. does not expressly teach such a combination. Even if Langer et al. was seen as suggesting such a combination, however, the express disclosure to position an intumescent layer adjacent the metal housing does not suggest sandwiching the non-intumescent layer between two intumescent layers. In fact, for exactly such a construction (i.e., one non-intumescent and two intumescent layers), there is a prior teaching in this art to position the non-intumescent layer in contact with a catalytic element and the two intumescent layers in contact with the metal housing, in order to protect the intumescent material. For example, see Col. 5, lines 28-50 in US Patent No. 4,863,700. Thus, the prior art actually teaches away from sandwiching a non-intumescent layer between two intumescent layers.

Regarding the rejection of claim 19, the Office Action only indicates that the additional limitation recited in claim 19 is disclosed in column 6, lines 32-34 of Langer et al. However, this passage only states:

Of course, the composition, thickness, and width of each of the layers may be varied to fit any contemplated end use.

It is submitted that such a broad teaching cannot adequately serve as the basis for a prima facie obviousness rejection of claim 19.

It is submitted that the teachings of the present application provide the only motivation to modify the teachings of Langer et al. so as to produce a multilayer mat according to the present invention of claims 1-10 and 12-19. Therefore, it is respectfully submitted that the Office Action has failed to meet its burden of proving a prima facie case of obviousness for claims 1-10 and 12-19. Accordingly, the rejection of claims 1-10 and 12-19 under 35 USC § 103(a) as being unpatentable over Langer et al. has been overcome and should be withdrawn.

### **§ 103 Rejection of Claim 11**

Claim 11 was rejected under 35 USC § 103(a) as being unpatentable over Langer et al. (US Patent No. 6,458,418 B2) in view of Papadopoulos (US Patent No. 4,362,016). In support of this rejection, the Office States:

Langer et al. reference discloses the pollution control device of claim 10 and its use on motor vehicles except which part of the motor vehicles the pollution device are employed on. It would have been obvious ... to install the pollution control device on a muffler in an automobile exhaust line as in Papadopoulos reference for reducing pollution of the atmosphere. (Papadopoulos-Figure 1, Abstract and Column 2, Line 54-57).

It is submitted that the Office Action has failed to overcome its burden of proving a prima facie case of obviousness.

As noted above, Langer et al. does not disclose using a mounting mat (for a pollution control device) that includes a non-intumescent layer sandwiched between two intumescent layers. Therefore, Langer et al. cannot be said to “disclose” the pollution control device of claim 10. Therefore, it can only be said that Langer et al. suggests such a mat construction. However, as noted above, neither the disclosure of Langer et al. or any other reference of record in this case provides a teaching that would suggest such a modification. Without such a modification, the device of claim 10 will not result and the combination of these two references will not result in the device of claim 11.

Even if the prior art did suggest such a modification of the Langer et al. device, the Office Action fails to provide a suggestion or motivation to use the Langer et al. pollution control device in a muffler. The Office Action only states that: "It would have been obvious ... to install the pollution control device on a muffler in an automobile exhaust line as in Papadopoulos reference for reducing pollution of the atmosphere." However, every pollution control device purports to reduce pollution of the atmosphere. It is submitted that the prior art actually teaches away from the combination proposed by the Office Action.

Langer et al. discloses a multilayer intumescent mat or sheet that is useful in mounting a pollution control element in a pollution control device (e.g., a catalyst carrier in a catalytic converter or a filter element in a diesel particulate filter) or as a firestop, and a method of making same. Papadopoulos is directed to a pollution control device that does not employ any form of mounting mat. In fact, Papadopoulos expressly teaches away from using such a pollution control device in his invention. See, e.g., column 1, lines 19-31, which states:

By reason of the large number of automobiles operated in congested areas such as large cities, pollution of the atmosphere by the automobile exhaust gases has become an increasingly serious problem. Many efforts have been made to decrease such pollution. Among such efforts is the installation of a catalytic converter in the exhaust line of the vehicle. However, a catalytic converter is an expensive piece of equipment which materially increases the cost of a car on which it is installed. Moreover, it is not wholly effective or reliable. A further disadvantage is that it requires the use of unleaded gasoline and thereby reduces the performance of the car.

It is submitted that the only teaching or suggestion to use a pollution control device like that disclosed in Langer et al. in a muffler is found in the present application and not in Papadopoulos or any other reference of record in this case. Therefore, it is respectfully submitted that the Office Action has failed to meet its burden of proving a prima facie case of obviousness for claim 11. Accordingly, the rejection of claim 11 under 35 USC § 103(a) as being unpatentable over Langer et al. in view of Papadopoulos has been overcome and should be withdrawn.

It is also submitted that there are other limitations recited in the claims, in addition to those discussed above, which further distinguish the claimed invention patentably from the cited

art and the other art of record. These additional distinguishing limitations were not discussed because there is no need to do so at this time.

In view of the above, it is submitted that the application is in condition for allowance. Examination and reconsideration of the application is requested.

Respectfully submitted,

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